ABB MEASUREMENT & ANALYTICS | ARTICLE

System Integration Unit (SIU)
BASF-YPC Company Limited | Nanjing | China

BASF-YPC Company Limited (hereinafter referred to as ‘BASF-YPC’) has successfully installed several of ABB’s process analyzer systems in their newly-integrated C4 complex

Measurement made easy

Introduction

The newly-integrated C4 complex consists of a butadiene extraction plant, an isobutene extraction plant, a plant for highly reactive poly-isobutene, and a 2-propyl-heptanol plant. The existing oxo-C4 plant is also expanded.

Company profile

BASF-YPC, a 50:50 joint venture between two FORTUNE 500 companies – BASF and SINOPEC, is regarded as a role model of successful Sino-German cooperation. It is located close to the Yangtze River in Liuhe District of Nanjing Municipality, abuts the Nanjing Chemical Industry Park (NCIP), where BASF-YPC enjoys a favorable environment for further expansion as well as synergies with neighboring enterprises.

ABB Analytical System Integration Unit (SIU) in Shanghai is a wholly-owned foreign enterprise in operation since 2002, delivering total turnkey analyzer systems to projects around the world.

For more information

Further details of ABB Measurement & Analytics products are available for free download from: www.abb.com/measurement or by scanning this code:
BASF-YPC began constructing the first phase of its Integrated Petrochemical Site in September 2001, which started commercial operation in June 2005. With an investment amounting to USD 2.9 billion, BASF-YPC built 10 world-scale process plants with a steam cracker plant of 600,000 tonne/year ethylene as the centerpiece in the first project phase. All plants employ state-of-the-art technology and BASF exclusive 'Verbund' concept to realize energy efficiency and cost-effectiveness and minimize environmental impact. The site also has a gas turbine combined cycle power plant and several international ports to ensure optimum energy supply and logistics.

In September 2009, BASF-YPC initiated the second phase development, with an investment of around USD 1.4 billion in total, including expansions of existing plants and construction of new facilities.

The commercial operation began in January 2012. The existing steam cracker was expanded to produce 740,000 tonne/year of ethylene along with the expansion of the existing ethylene oxide plant and the construction of a new ethylene oxide purification unit.

New plants in the expanded ethylene oxide derivatives value chain include a non-ionic surfactants plant, an amines complex for the production of ethanolamines, ethyleneamines and dimethylthanolamine, and a dimethylaminoethyl acrylate plant.

The newly integrated C4 complex consists of a butadiene extraction plant, an isobutene extraction plant, a plant for highly reactive polyisobutene, and a 2-propyl-heptanol plant. The existing oxo-C4 plant was also expanded.
Analysis of butadiene, isobutene, poly-isobutene and 2-propyl-heptanol

Analysis of butadiene, isobutene, poly-isobutene and 2-propyl-heptanol at the BASF-YPC Nanjing plant is securely carried through by analyzer houses equipped with accurate and reliable ABB Analytical Systems / Analyzers; designed and manufactured by ABB System Integration Unit (SIU).

What are the main benefits?

We ask Mrs Zhu Wei, Senior Engineer, Process Analyzers at BASF-YPC what are the main benefits with ABB and the System Integration Unit (SIU).

“In general we have excellent communication with the ABB technical staff. When we have questions we always get good and fast response from them.”

“The long-term relation is very good between BASF-YPC & ABB and the relation is very developing for both parties. The interactive feedback is very good for all parties; BASF-YPC, ABB and their System Integration Unit (SIU)”

“To pick some good products from ABB Measurement Products we really appreciate:

- CGA (Continuous Gas Analyzer), always working fine, very reliable and stable
- IR (InfraRed), has always worked very well, reliable and stable
- GC (Gas Chromatograph), need less maintenance, most important MP-product in Analyzer Houses (SIU) with complex application is PGC5000C - Smart Oven™
- Multi-FID; utility pH and conductivity works very well
- Silica (very good)”
...What are the main benefits?

“The good cooperation between BASF-YPC and ABB is creating a good atmosphere where both parties come up with proposals and good suggestions for improvements. Here a good example:

BASF-YPC thinks ABB’s new touch-screen is much better than the current one. BASF-YPC prefers the new touch-screen and gives feedback to ABB on how to improve the products. More improvements: there are lots of things in the PGC 5000 oven and it is hard to change spares in the oven. Here ABB has received lots of valuable feedback for improving the products.”

“In the latest project at Nanjing, ABB has delivered a majority of the analytics products meaning that more than 50% comes from Measurement Products. And ABB has also been appointed MPAV (Main Process Analytical Vendor) for providing the packaged analytical solution and many new projects are coming up in Nanjing in the future”.

Analyzers at ABB SIU factory in Kangqiao, Pudong, Shanghai China
Additional comments on the cooperation BASF-YPC & ABB from Mr Helmut Kaul, Senior Automation Engineer, Process Analytical Technology, Engineering & Maintenance, Ludwigshafen, Germany

“The Joint Venture between BASF & YPC is working much better now with a learning curve during some years”

“Nanjing is the biggest BASF-site in China, with approximately 2,000 people working here”

“We have a very good solution with ABB supplying BASF with packaged analyzer systems via SIU Measurement Products”

“ABB is very reliable. You know that ABB will always be an actor in the market place and ABB will always take the responsibility to implement the entire project”

Analyzer house assembly at ABB SIU factory in Kangqiao, Pudong, Shanghai China